

AMENDMENTS TO THE CLAIMS

1. (Previously presented) A fusion protein comprising

(a) at least one binding domain comprising an antibody or binding site thereof that specifically recognizes an epitope of a plant pathogen; and

(b) a membrane localization sequence and/or motif that leads to membrane anchoring,

wherein said membrane localization sequence and/or motif is C-terminal to said binding domain.

2. (Previously presented) The fusion protein of claim 1 further comprising at least one domain comprising a protein or peptide sequence that is toxic to the pathogen or detrimental to its replication, transmission or life cycle.

3. (Previously presented) The fusion protein of claim 2 wherein the toxic activity of the protein or peptide sequence is activated by the presence of the pathogen, a component thereof or a component of a host cell.

4. (original) The fusion protein of claim 3 wherein the toxic activity of the protein or peptide sequence is activated by a pathogen specific or host cell protease.

5. (Previously presented) The fusion protein of claim 1 wherein said binding domain comprises an antibody, a T-cell receptor, a pathogen specific receptor, a peptide specific for an epitope of a pathogen, or at least the binding site of any one of those.

6. (original) The fusion protein of claim 5 wherein said antibody or binding site thereof is a recombinant full-size antibody, dimeric secretory IgA antibody, multimeric IgM antibody, F(ab')₂-fragment, Fab-fragment, Fv-fragment, single chain Fv antibody (scFv), bispecific scFv, diabody, single domain antibody (dAb), minibody or molecular recognition unit (MRU), derived from hybridoma cells, synthetic, semi-synthetic, naïve and immunocompetent phage display or ribosome display libraries, or by the generation of fully synthetic designer antibodies.

7. (Previously presented) The fusion protein of claim 1 comprising at least two binding domains for the same or different epitope(s).

8. (original) The fusion protein of claim 7 wherein said epitopes are from the same or different pathogen(s).

9. (Previously presented) The fusion protein of claim 2 wherein the toxin is an enzyme or a viral structural or non-structural protein or a binding domain comprising an antibody or binding site thereof that specifically recognizes an epitope of a plant pathogen.

10. (Previously presented) The fusion protein of claim 9 wherein said enzyme is chitinase or glucanase, glucose oxidase, superoxide dismutase, DNase or RNase or ribosomal-inactivating-protein ("RIP") or lipase or active fragments thereof either singly or in any combination(s).

11. (Previously presented) The fusion protein of claim 1 wherein the pathogen is a virus, bacterium, mycoplasma, fungus, nematode or insect.

12. (Previously presented) The fusion protein of claim 1 wherein at least one of said domains is fused to a C- or N-terminal carrier protein.

13. (Previously presented) The fusion protein of claim 1 wherein at least one of said domains comprises a fluorophore.

14. (Previously presented) A pathogenicide comprising the fusion protein of claim 1 or 2.

15-17. (Cancelled)

18. (Previously presented) The fusion protein of claim 1, wherein said binding domain(s) and/or said further domain(s) are capable of self assembly in vivo.

19. (Previously presented) The pathogenicide of claim 14 wherein the antibody or binding site thereof specifically recognizes a viral movement and/or replicase protein.

20. (original) The pathogenicide of claim 19 which comprises an antibody.

21-35. (cancelled)

36. (Previously presented) A kit comprising the fusion protein of claim 1 or the pathogenocide of claim 14.

37. (cancelled)

38. (Previously presented) The fusion protein of claim 1 or 2, wherein the membrane localization sequence is proteolytically sensitive.

39. (Previously presented) The fusion protein of claim 1 or 2, wherein the membrane localization sequence is a member of the immunoglobulin super family.

40. (Previously presented) The fusion protein of claim 1 or 2, wherein the membrane localization sequence is human T cell receptor transmembrane domains, glyco-phosphatidyl inositol (GPI) anchors, KAR1, middle-T antigen, cytochrome b5 or syn1.

41. (Previously presented) The fusion protein of claim 1 or 2, wherein the domains are linked by covalent or non-covalent bonds.

42. (Previously presented) The fusion protein of claim 1, wherein further comprising a cellular targeting sequence.

43. (Previously presented) The pathogenocide of claim 14, wherein said binding domain(s) and/or said further domain(s) are capable of self assembly in vivo.

44. (Previously presented) A kit comprising the pathogenocide of claim 14.